CLAIMS:

What is claimed is:

1. A method comprising:

generating a packet for transmission via a select one or more antenna(e) of a transmitting

device; and

including with the generated packet one or more training symbol(s), at least one each for

at merely a subset of the number of antenna(e) of the transmitting device, wherein the packet is

generated for purposes other than the transmission of the training symbols.

2. A method according to claim 1, wherein the packet is one or more of a data packet, a

handshaking packet, an acknowledgement packet, and any combination thereof, and wherein the

included training symbol(s) are embedded within, or appended to, the generated packet.

3. A method according to claim 2, wherein the packet is one or more of a request to send

(RTS) packet and a clear to send (CTS) packet.

4. A method according to claim 3, wherein the generated packet is used as a training symbol

for transmission via at least one select transmit antenna.

5. A method according to claim 4, wherein the at least one transmit antenna is selected as

the one providing a best performance metric at a receiver when compared against other transmit

antenna options.

6.   A method according to claim 5, wherein the performance metric is a signal to noise ratio (SNR).

7.   A method according to claim 5, wherein the included one or more training symbols are transmit via a select subset of a plurality of transmit antenna(e).

8.   A method according to claim 7, wherein the select subset of transmit antenna include at least a subset of remaining antenna(e) that were not used for transmission of the handshaking packet.

9.   A method according to claim 3, wherein the included one or more training symbol(s) are transmit via a select subset of a plurality of transmit antenna(e).

10.   A method according to claim 9, wherein the select subset of transmit antenna is selected as the one providing a best performance metric at a receiver when compared against other transmit antenna options.

11.   A method according to claim 2, further comprising:

transmitting the packet to a remote device as a training symbol via a select first of a plurality of antenna(e); and

transmitting the included training symbols to the remote device via a select second or more of the plurality of antenna(e) to enable the remote device to perform training.

12.   A method according to claim 11, further comprising:

receiving at least a packet from the remote device, wherein the packet is used as a training symbol; and

performing calibration of one or more transmit chains based, at least in part, on channel performance information associated with the received training symbol(s).

13.   A storage medium comprising content which, when executed, causes an accessing communication device to implement a method including:

generating a packet for transmission via a select one or more antenna(e) of a transmitting device; and

including with the generated packet one or more training symbol(s), at least one each for at merely a subset of the number of antenna(e) of the transmitting device, wherein the packet is generated for purposes other than the transmission of the training symbols.

14.   A storage medium according to claim 13, wherein the packet is one or more of a data packet, a handshaking packet, an acknowledgement packet, and any combination thereof.

15.   A storage medium according to claim 14, wherein the packet is a handshaking packet comprising one or more of a request to send (RTS) packet and a clear to send (CTS) packet.

16.   A storage medium according to claim 14, wherein the generated packet is used as a training symbol for transmission via at least one select transmit antenna.

17.   A storage medium according to claim 16, wherein the at least one transmit antenna is selected as the one providing a best performance metric at a receiver when compared against other transmit antenna options.

18.   A storage medium according to claim 17, wherein the included one or more training symbols are transmit via a select subset of a plurality of transmit antenna(e).

19.   A storage medium according to claim 18, wherein the select subset of transmit antenna include at least a subset of remaining antenna(e) that were not used for transmission of the handshaking packet.

20.   A storage medium according to claim 19, wherein the included one or more training symbol(s) are transmit via a select subset of a plurality of transmit antenna(e).

21.   A storage medium according to claim 14, wherein the included one or more training symbol(s) are transmit via a select subset of a plurality of transmit antenna(e).

22.   A storage medium according to claim 21, wherein the select subset of transmit antenna is selected as the one providing a best performance metric at a receiver when compared against other transmit antenna options.

23.   A storage medium according to claim 14, further comprising instructions to cause the accessing device to:

3   transmit the generated packet to a remote device as a training symbol via a select first of

4 a plurality of antenna(e); and

5   transmit the included training symbols to the remote device via a select second or more of

6 the plurality of antenna(e) to enable the remote device to perform training.

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1 24. A storage medium according to claim 23, further comprising content to enable an

2 accessing device to:

3   receive at least a packet from the remote device, wherein the packet is used as a training

4 symbol; and

5   perform one or more of training and calibration of one or more transmit chains based, at

6 least in part, on channel performance information associated with the received training

7 symbol(s).

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1 25. An apparatus comprising:

2   one or more transmit antenna(e), to enable wireless communication with a remote device;

3 and

4   a controller, coupled with the one or more transmit antenna(e), to generate a packet for

5 transmission via a select one or more of the transmit antenna(e), and to selectively include with

6 the generated packet one or more training symbol(s), at least one each for at merely a subset of

7 the number of antenna(e) of the transmitting device, wherein the packet is generated for purposes

8 other than the transmission of the training symbols.

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1   26.   An apparatus according to claim 25, wherein the packet is one or more of a data packet, a

2   handshaking packet, an acknowledgement packet, and any combination thereof, and wherein the

3   training symbol(s) are embedded within, or appended to, the generated packet.

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1   27.   An apparatus according to claim 26, wherein the controller generates one or more of a

2   request to send (RTS) packet and a clear to send (CTS) packet as the generated packet.

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1   28.   An apparatus according to claim 26, wherein the controller issues the generated packet as

2   a training symbol for transmission via at least one select transmit antenna.

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1   29.   An apparatus according to claim 26, wherein the controller selects the at least one

2   transmit antenna for transmission based, at least in part, on an indication of a receive

3   performance metric at the remote device.

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1   30.   An apparatus according to claim 29, wherein the select antenna is determined to provide

2   a best receive performance at the remote device as compared to other transmit antenna(e)

3   options.

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1   31.   An apparatus according to claim 29, wherein the performance metric is a signal to noise

2   ratio (SNR) at the remote device.

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32   An apparatus according to claim 29, wherein the controller selects at least one or more of

a remaining subset of the plurality of transmit antenna(e) to transmit the one or more training

symbol(s).

33.   Am apparatus according to claim 32, wherein the select subset of transmit antenna

include at least a subset of remaining antenna(e) that were not used for transmission of the

generated packet.

34.   An apparatus according to claim 26, further comprising:

a transmitter, coupled between the controller and the transmit antenna(e), to transmit the

packet to a remote device as a training symbol via a select first of a plurality of antenna(e), and

to transmit the included training symbols to the remote device via a select second or more of the

plurality of antenna(e) to enable the remote device to perform training.

35.   An apparatus according to claim 26, further comprising:

a receiver, coupled between the controller and one or more receive antenna(e), to receive at least

a packet from the remote device, wherein the packet is used as a training symbol, to enable the

controller to perform calibration of one or more transmit chains based, at least in part, on channel

performance information associated with the received training symbol(s).

36.   An apparatus according to claim 35, wherein the transmit antenna(e) and the receive

antenna(e) are one in the same.

37.   An apparatus comprising:

        a storage medium in which to store at least executable content; and

        control logic, coupled to the storage medium, to selectively execute at least a subset of

the executable content stored therein to generate a packet for transmission via a select one or

more of a plurality of transmit antenna(e), and to selectively include with the generated packet

one or more training symbol(s), at least one each for at merely a subset of the number of

antenna(e) of the transmitting device, wherein the packet is generated for purposes other than the

transmission of the training symbols.

38.   An apparatus according to claim 37, wherein the packet is one or more of a data packet, a

handshaking packet, an acknowledgement packet, and any combination thereof, and wherein the

training symbol(s) are embedded within, or appended to, the generated packet.

39.   An apparatus according to claim 37, further comprising:

        a transmitter, coupled to the control logic, to transmit the packet to a remote device as a

training symbol via a select first of a plurality of antenna(e), and to transmit the included training

symbols to the remote device via a select second or more of the plurality of antenna(e) to enable

the remote device to perform training

40.   An apparatus according to claim 39, wherein the control logic selectively executes

content to select the first antenna from the plurality of antenna(e) based, at least in part, on a

received or perceived indication of channel performance at the remote device.

1   41.   An apparatus according to claim 37, further comprising:

2   a receiver, coupled with the control logic, to receive at least a packet from the remote

3   device, wherein the packet is used as a training symbol, and to enable the control logic to

4   perform calibration of one or more transmit chains based, at least in part, on channel

5   performance information associated with the received training symbol(s).

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